

THE SPECIFIC STATUS OF *PAUOPSALTA NIGRISTRIGA*  
GODING AND FROGGATT (HOMOPTERA: CICADIDAE) WITH  
THE DESCRIPTION OF AN ALLIED NEW SPECIES

By M. S. Moulds

Research Associate, Australian Museum, 6-8 College St., Sydney, N.S.W. 2000

**Abstract**

The Australian cicada *Pauropsalta nigristriga* Goding and Froggatt is distinct from *Pauropsalta melanopygia* (Germar) and is here removed from the synonymy of the latter. *P. infrasila* sp. n., a species from north-eastern Queensland and closely resembling *P. nigristriga*, is described.

**Introduction**

Ashton (1914) suggested that *Pauropsalta nigristriga* Goding and Froggatt, 1904, was a junior synonym of *Pauropsalta melanopygia* (Germar, 1834) and Burns (1957), followed by Duffels and van der Laan (1985), list it as such in their catalogues. However, the true identity of *P. melanopygia* has been uncertain as the type could not be found. Recently Dr A. Ewart and Mr I. Lansbury located the type of *P. melanopygia* (and other Australian cicada types of Germar) in the Hope Entomological Collections, University of Oxford, which Dr Ewart will discuss in a forthcoming paper (Ewart, in prep.). I have now examined the type of *melanopygia* (type locality Melville Island, Northern Territory) and it is clear that *P. melanopygia* and *P. nigristriga* are not synonymous.

*P. nigristriga* is usually an uncommon species which is often sympatric with a far more common cicada that is very similar in appearance; the latter, *P. infrasila* sp. n., is described below. Both species will be figured in colour by Moulds (in press).

The following abbreviations are used: AE private collection of Dr A. Ewart, Brisbane; AM Australian Museum, Sydney; ANIC Australian National Insect Collection, CSIRO, Canberra; BMNH British Museum (Natural History), London; JM private collection of Dr J. Moss, Brisbane; JO private collection of Mr J. Olive, Cairns; MM Macleay Museum, University of Sydney; MV Museum of Victoria, Melbourne; MSM author's collection; QM Queensland Museum, Brisbane.

*Pauropsalta nigristriga* Goding and Froggatt, 1904, stat. rev.

(Figs 1, 3, 4)

(Plate 9, figs 3, 3a in Moulds, in press)

*Material examined.*—NORTHERN QUEENSLAND: Holotype ♂, Endeavour River, no date, no collector (ANIC, on permanent loan from MM). 1 ♂, Annan River, Cooktown, 1905, Brown, ex W. W. Froggatt collection (ANIC, on permanent loan from MM). 1 ♂, 1 ♀, 24 km along Gunawarra road, S of Mt Garnet, 7.iii.1973, A. & M. Walford-Huggins,

(figured pl. 9, figs 3 and 3a 'Guide to Australian Cicadas'); 1 ♂, 1 ♀, Mt Molloy, 1.i.1974, A. & M. Walford-Huggins; 1 ♀, Clohesy River crossing, Mareeba-Kuranda road, 18.iii.1973, A. & M. Walford-Huggins; 1 ♂, 16 km S of Mt Molloy, 4.i.1974, A. & M. Walford-Huggins; 1 ♂, Davies Creek crossing, Mareeba-Kuranda road, 25.i.1976, A. & M. Walford-Huggins; 1 ♂, Annan River crossing, Grass Tree Pocket road, 8.i.1982, eucalypt-casuarina, G. & A. Daniels; 1 ♂, Laura River at old h'stead, 4.iv.1983, A. Walford-Huggins; 1 ♂, York Downs, 50 km E of Weipa, 28.xii.1983, M. S. & B. J. Moulds; 1 ♂, 10 km S of Woodstock, S of Townsville, 2.ii.1981, M. S. & B. J. Moulds; 1 ♂, Cairns, 24.i.1981, J. Olive (MSM). 5 ♂♂, 1 ♀, Kuranda, 12.ii.1950, 7/14.i.1950, 5.iii.1950, G.B. [George Brooks], ex A. N. Burns collection; 1 ♂, 1 ♀, Mowbray River, 9.iii.1952, G.B. [George Brooks], ex A. N. Burns collection; 1 ♂, Mareeba, 28.ii.1950, G.B. [George Brooks], ex A. N. Burns collection; 1 ♂, Mareeba, 3.xii.1950, J. G. Brooks, ex F. E. Wilson collection (MV). 1 ♂, 1 ♀, Tinaroo Lake, Atherton Tablelands, 20.xii.1981, J. Olive; 1 ♀, Clifton Beach, north of Cairns, 11.ii.1986, J. Olive (JO). 2 ♂♂, Mareeba, 31.xii.1950, J. G. Brooks; 1 ♂, Mt Molloy, Dr Riches, Exch. 1914; 2 ♂♂, Kuranda, 14,21.i.1951, J. G. Brooks; 1 ♀, Cairns, 1.i.1951, J. G. Brooks; 1 ♂, 32 km SW of Mount Garnet, 7.i.1976, D. K. McAlpine (AM). 7 ♂♂, 2 ♀♀, Station Creek, N of Mt Molloy, 4.iii.1981, J. Moss; 1 ♀, Ellis Beach, N of Cairns, 7.iii.1966, K. Norris (JM).

#### ADULT

Similar to *P. infrasila* sp. n. but differing as follows:—Rostrum reaches only to bases of hind coxae. Male abdomen below black at apex; genitalia (Figs 3,4) with pygofer produced laterally to form a large lobe angled ventrally on distal half or so. Female ovipositor sheath extending more than 2 mm (≈ 2.5-3.0 mm) beyond apex of abdomen.

#### HABITAT

Dry sclerophyll forest, often high up in eucalypt trees.

#### DISTRIBUTION (Fig. 1)

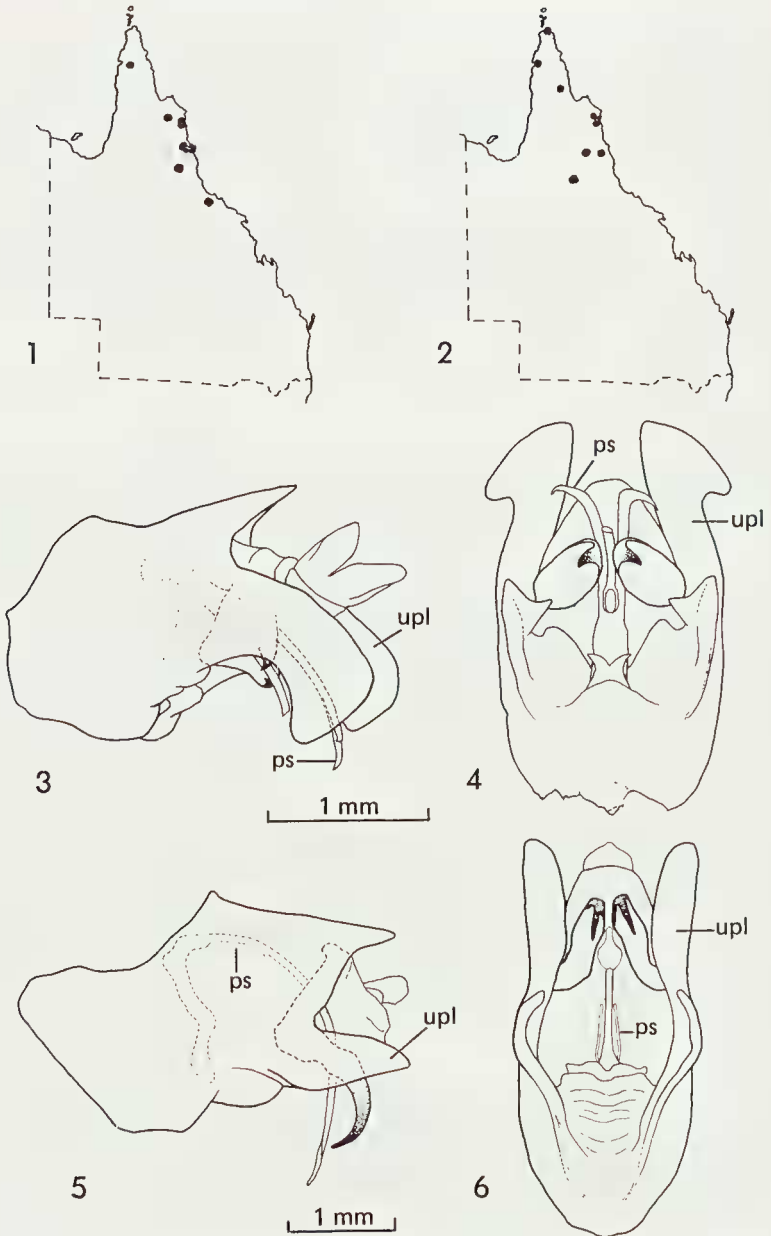
Northern Queensland south from "York Downs" near Weipa, through Laura, Cooktown, Cairns, Atherton Tablelands and Mount Garnet districts, to 50 km S of Townsville; usually uncommon. Adults have been taken from late December to early April.

#### *Pauropsalta infrasila* sp. n.

(Figs 2, 5, 6)

(Plate 9, figs 2, 2a in Moulds, in press)

*Types*.—NORTHERN QUEENSLAND: ♂ *holotype* and ♀ *allotype*, Isabella Falls, Bald Hills Stn [= Louisiana Stn], 30 km N of Cooktown, 13.ii.1982, M. S. & B. J. Moulds (AM). *Paratypes*.—2 ♀♀, Punsand Bay, Cape York, 17.i.1987, R. B. Lachlan; 1 ♂, same locality but 16.v.1986, R. B. Lachlan & M. R. Palfreyman; 1 ♂, Coen, 13.i.1964, M. S. Moulds; 9 ♂♂, 4 ♀♀, same data as holotype & allotype (1 ♂ figured pl. 9, fig. 2, 'Guide to Australian Cicadas'); 6 ♂♂, 4 ♀♀, swamp at head of Isabella Ck, 12 km N of Bald Hills homestead, 30 km N of Cooktown, 14.ii.1982 M. S. & B. J. Moulds; 1 ♂, Bald Hills Stn near turnoff to Laura, 3.i.1981, M. S. & B. J. Moulds; 1 ♂, 2 ♀♀, Bald Hills Stn, 4 km N of Isabella Falls, 29.xii.1984, G. & A. Daniels; 3 ♀♀, Bald Hills Stn, 8 km N of Isabella Ck crossing [= Isabella Falls], 9,13.i.1982, G. & A. Daniels; 1 ♀, Bald Hills Stn, 9 km N of Isabella Falls, 29.xii.1984, G. & A. Daniels; 1 ♂, 7 ♀♀, Cooktown, 17.ii.1982, M. S. & B. J. Moulds (1 ♀ figured pl. 9, fig. 2a 'Guide to Australian Cicadas'); 1 ♀, Mount Cook, Cooktown, 12.i.1982, G. & A. Daniels; 1 ♀, Mount Cook, Cooktown, 31.xii.1983, M. S.



Figs 1-6. (1) distribution of *P. nigristriga*; (2) distribution of *P. infrasila*; (3, 4) *P. nigristriga*, male pygofer in lateral and ventral views respectively; (5, 6) *P. infrasila* sp.n., male pygofer in lateral and ventral views respectively. ps, pseudoparamere; upl, upper pygofer lobe.

& B. J. Moulds; 1 ♂, Grassy Hill, Cooktown, 11.i.1982, G. & A. Daniels; 1 ♀, Annan River crossing, Grass Tree Pocket road, 7.i.1982, eucalypt-casuarina, G. & A. Daniels; 1 ♂, Wrotham Park via Chillagoe, 28.i.1978, R. I. Storey; 1 ♂, 2 ♀♀, 27 km E of Forsayth [near Georgetown], 24.xii.1977, R. I. Storey (MSM). 1 ♂, same data as holotype; 1 ♀, Cape Flattery road, via Cooktown, 29.x.1981, R. I. Storey & I. J. Titmarsh (DPIM). 1 ♂, 1 ♀, Claudie River, ♂ only bearing date 18.i.1914, J. A. Kershaw; 2 ♂♂, 8 ♀♀, Claudie River, ii.1914, Dr Macgillivray; 1 ♂, 1 ♀, Kuranda, i.1908, R. W. Armitage (MV). 6 ♂♂, 1 ♀, Grassy Hill lookout, Cooktown, 7.ii.1973, J. Moss; 1 ♀, Chillagoe, 28.i.1978, R. I. Storey (JM). 1 ♂, swamp at head of Isabella Ck, 12 km N of Bald Hills homestead [= Louisiana Stn], 30 km N of Cooktown, 14.ii.1982, M. S. & B. J. Moulds; 1 ♀ same data as holotype (AE). 1 ♂, 1 ♀, same data as holotype; 1 ♀, Hibberd Point, Weipa, 5-8.ii.1975, G. B. Monteith (QM). 1 ♂, 1 ♀, same data as holotype (BMNH). 1 ♂, 1 ♀, same data as holotype (ANIC). 1 ♀, Mt Cook nr Cooktown, 31.xii.1983, M. S. & B. J. Moulds (JO).

*Other material examined.*—2 ♂♂, 1 ♀, Claudie River, xi.1913-ii.1914, and 28.i.1914, J. A. Kershaw, all badly damaged (MV).

## ADULT

### Male

*Head.*—Black with dull yellow markings. Postclypeus glossy black; most anterior part bearing a dull yellow spot; lateral margins dull yellow; dorsally depressed, almost flat; midline only weakly grooved but lateral transverse ridges distinct. Anteclypeus black. Rostrum brown at base becoming black towards apex; reaching just beyond apices of hind coxae. Antennae brown.

*Thorax.*—Pronotum brown with black and yellow markings. Anterior and lateral margins narrowly edged yellow, posterior margin much more broadly edged yellow, midline yellow except for a short distance at posterior end, a dull yellow spot either side of midline adjoining yellow posterior marginal band, black along pronotal grooves and either side of yellow dorsal midline. Mesonotum black with orange yellow markings; an orange-yellow marking on either side of midline extending from extremities of anterior arms of cruciform elevation to pronotum, these markings straight along their outer edge, greatly expanded inwards near centre on inner edge but the expansions never quite meeting; upper margin of each wing cavity orange-yellow, cruciform elevation orange-yellow; always a pair of small black dots, one against inner extremity of each anterior arm of cruciform elevation, these sometimes completely within the orange-yellow markings, but usually only adjoining the orange-yellow. Metathorax glossy black at hind wing base, remainder orange-yellow.

*Legs.*—Fore legs mostly brown with black markings, femora and tibiae pale yellow at their junction. Middle and hind legs more or less similar in colouring to fore legs but tibiae, and tarsae except for distal end, pale yellow.

*Wings.*—Hyaline; costa orange-brown; veins black; fore wing basal membrane brown, tending black; hind wing vein 2A weakly infuscated brown

with extensive brown plaga extending half to three quarters length of 3A.

*Opercula*.—Small; not closing tympanal cavities; widely separated; pale yellow and flat except for black, low, rounded swelling on basal quarter or so.

*Tymbals*.—Four long, black ribs spanning each tymbal and another spanning only about half, between each a very short rib; anterior edge black and strongly sclerotised.

*Abdomen*.—Brownish orange above and below; tergite 1 and anterior half of 2 essentially black; posterior edge of tergites 2-8 pale yellowish; anterior half or so of tergites 3-7 black but the black petering out laterally; tergite 8 substantially black. Sternite 2 essentially black, partly brown; forming a spine-like, glossy black projection separating tymbal and tympanum cavities; sternites 3-9 entirely without black pigmentation, sternite 3 broad, 8 very small.

*Genitalia* (Figs 5, 6).—Pygofer with upper pygofer lobes large, almost straight and tapering to a rounded point in lateral view; dorsal apical spine large. Uncus deeply bifurcate, the lobes long, slender, sickle-shaped in lateral view. Aedeagus long and slender, apex flanged; a ventral pair of delicate tubular pseudoparameres at base of shaft.

#### FEMALE

Similar to male but abdominal tergites with the black dominating except on tergite 8 which is almost entirely pale yellowish; abdominal segment 9 brown on anterior two thirds or so, pale yellowish on apical remainder, the brown bearing a dorsal pair of paramedian black fasciae that almost converge at their posterior ends. Ovipositor sheath extending about 1-1.5 mm beyond apex of abdomen.

#### MEASUREMENTS

Range and mean (in mm) for 20 ♂♂ and 20 ♀♀. Length of body: ♂ 19.9-24.0 (22.19), ♀ 19.8-24.4 (21.98). Length of fore wing: ♂ 23.6-30.5 (26.27); ♀ 24.0-29.3 (26.51). Width of head: ♂ 6.2-7.2 (6.62); ♀ 6.1-7.1 (6.68). Width of pronotum (max. at pronotal collar): ♂ 6.3-7.9 (7.07); ♀ 6.5-8.0 (7.24).

#### HABITAT

Open tropical bushland, in eucalypts and other trees.

#### DISTRIBUTION (Fig. 2)

Northern Queensland from Cape York, Weipa, Coen, Cooktown district, Atherton Tablelands, Chillago and 27 km E of Forsayth near Georgetown. It is usually a common species in the Cooktown district but there are few specimens from other areas. Most adults have been taken during January and February but there are records from late October to March and a single mid May record from Cape York.

### Discussion

The close similarity in external morphology and coloration of these two species is not shared by the male genitalia. Male genital structure is, in fact, remarkably different in major characters (compare Figs 3 and 4 with 5 and 6), i.e. upper pygofer lobes (hypertrophied/simple), uncus (stout terminal spines/long and slender terminal spines) and aedeagus (a dorsal pair of very long pseudoparameres/a ventral pair of comparatively short and delicate pseudoparameres). Such differences, in two otherwise similar and partly sympatric species, must clearly separate these species biologically.

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